

**IN THE CLAIMS:**

- 1 1. (Cancelled)
- 1 2. (Cancelled)
- 1 3. (Cancelled)
- 1 4. (Cancelled)
- 1 5. (Cancelled)
- 1 6. (Cancelled)
- 1 7. (Cancelled)
- 1 8. (Cancelled)
- 1 9. (Cancelled)
- 1 10. (Cancelled)

1 11. (Cancelled)

1 12. (Cancelled)

1 13. (Cancelled)

1 14. (Cancelled)

1 15. (Cancelled)

1 16. (Cancelled)

1 17. (Cancelled)

1 18. (Cancelled)

1 19. (Cancelled)

1 20. (Cancelled)

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1 22. (Cancelled)

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1 24. (Cancelled)

1 25. (Cancelled)

1 26. (Cancelled)

1 27. (Cancelled)

1 28. (Cancelled)

1 29. (Cancelled)

1 30. (New) A storage system adapted to provide on-disk representations of one or  
2 more predetermined files served by the storage system, the system comprising:  
3 an operating system resident in a memory and invoking storage operations in sup-  
4 port of a file system configured to logically organize information as a hierarchical struc-  
5 ture of directory and file inodes on the disk, each of the files having one or more associ-

6 ated file attributes stored on the disk as a representation embodying a stream inode asso-  
7 ciated with a file inode.

1 31. (New) The storage system of claim 30 wherein each on-disk file inode includes at  
2 least one stream inode.

1 32. (New) The storage system of claim 30 wherein the predetermined file comprises a  
2 NTFS file.

1 32. (New) A multi-protocol data access storage system adapted to provide on-disk  
2 representations of at least one file served by the storage system, the system comprising:  
3 an operating system resident in a memory of the storage system and configured to  
4 invoke storage operations in support of a file system configured to logically organize in-  
5 formation as a hierarchical structure of directory and file on the disk, the operating sys-  
6 tem including a file system protocol layer configured to provide data access in support of  
7 a plurality of file system protocols, each of the files stored on the disk as a representation  
8 embodying a stream inode associated with a file inode.

1 34. (New) The storage system of claim 33 wherein each on-disk file inode includes at  
2 least one stream inode.

1 35. (New) The storage system of claim 34 wherein each on-disk file inode includes a  
2 default stream.

1 36. (New) A system adapted to provide on-disk representations of at least one file  
2 within a filer, the system comprising:  
3 a processor;  
4 a memory coupled to the processor and having locations addressable by the proc-  
5 essor;  
6 at least one disk coupled to the memory and processor; and  
7 an operating system resident in the memory locations and invoking storage op-  
8 erations in support of a file system configured to logically organize information as files  
9 on the disk, each of the files stored on the at least one disk as a representation embodying  
10 a stream inode associated with a file inode.

1 37. (New) The system of claim 36 wherein each on-disk file inode includes a default  
2 data stream.

1 38. (New) The system of claim 36 further comprising a storage adapter intercon-  
2 nected with the processor, memory and disk, the storage adapter cooperating with the op-  
3 erating system to access the information stored on the disk.

1 39. (New) The system of claim 36 further comprising a network adapter coupled to  
2 the processor and memory of the filer, the network adapter connecting the filer to a client  
3 over a computer network, the client interacting with the filer by exchanging packets en-  
4 capsulating a record requesting file services from the filer using a file system protocol  
5 over the network.

1 40. (New) The system of claim 39 wherein the file system protocol is a Common  
2 Internet File System (CIFS) protocol and wherein the record is a CIFS record comprising  
3 information pertaining to an operation directed to the named stream inode.

1 41. (New) The system of claim 40 wherein the operating system comprises a series of  
2 software layers, including a file system protocol layer configured to support the CIFS  
3 protocol and a file system layer.

1 42. (New) The system of claim 41 wherein the CIFS record is interpreted as directed  
2 to a named data stream associated with a file and transformed into a message structure by  
3 the CIFS layer, and further passed to the file system layer, where the operation is per-  
4 formed.

1 43. (New) The system of claim 42 wherein the message is passed from the CIFS layer  
2 to the file system layer as a function call.

1 44. (New) The system of claim 42 wherein the file system layer loads the stream  
2 inode from disk into memory and accesses the stream inode as instructed by the opera-  
3 tion.

1 45. (New) The system of claim 41 wherein the operating system further comprises a  
2 media access layer of network drivers, network protocol layers, a disk storage layer that  
3 implements a disk storage protocol and a disk driver layer that implements a disk access  
4 protocol.

1 46. (New) The system of claim 45 wherein a storage access request data path through  
2 the operating system layers enables performance of data storage access for the client re-  
3 quest received at the filer.

1 47. (New) The system of claim 46 wherein the storage access request data path is im-  
2 plemented as logic circuitry embodied within a hardware circuit.